



TAI SOLARIN UNIVERSITY OF EDUCATION, IJAGUN
COLLEGE OF SPECIALIZED AND PROFESSIONAL EDUCATION
DEPARTMENT OF EDUCATIONAL TECHNOLOGY
2024/2025 ACADEMIC SESSION - FIRST SEMESTER

COURSE CODE: EDT 211

COURSE TITLE: PRODUCTION OF EDUCATION MOTION PICTURE, ANIMATION, CARTOONING
AND FILM DOCUMENTARY

(2 Units E: LH 15, PH 30)

Learning Outcomes

At the end of the course, learners should be able to:

1. Define motion pictures;
2. Produce education motion picture for learning activity;
3. Define animation;
4. Explain the types of animation;
5. Analyse and develop education motion picture;
6. Explain at least two (2) types of animation techniques;
7. Define cartooning;
8. Analyse the process of producing film documentary;
9. Produce Educational films as a class project; and
10. Design and develop animations and cartoon as learning aids.

Course Contents

The concept of Education Motion Pictures, animation, cartoon and film documentary, animation and types of animation, educational uses of animation; Production of motion pictures , animation techniques , production of film documentary; production of animations, production of cartoons, Use of 8mm and other cameras, film objectives, scenario preparation, film accessories, direction and editing, Production of Educational films as class project, application of the developed animation in teaching and learning, application of motion pictures, animation and cartoon in teaching and learning. The concept of digital photo, Tools and techniques of digital photo editing, Discuss the advantages of digital photo, Production of digital photo and editing; Concept of digital photo editing; The 6 C's of editing, four levels of editing, principles of photo editing, types of editing, photoshop editing, rules of editing. Discussion of digital photography in

computer mediated communication, Concept of Photojournalism, History of Photography in Nigeria. Terminology used for the digital camera and photojournalism, Concept and history of photography in education, Types of camera, Light and the human eye, Photographic lenses, exposure control, ISO, apertures, depth of field and shutter speeds, aperture setting, darkroom activities, processing of pictures, and post processing. Filters, extension tubes and supplementary lenses, light meter and exposure methods, Elements for good instructional photographs.

Assessment & Evaluation (100%): Attendance, Practical, Group Presentation, CA Test, Examination

Copyright © Ishola A. M. (2024)

WEEK 1

DEFINE MOTION PICTURES

It is a series of pictures projected on a screen in rapid succession with objects shown in successive positions slightly changed so as to produce the optical effect of a continuous picture in which the objects move.

Motion pictures, often called movies or films, are sequences of still images shown in rapid succession, typically at 24 frames per second or more, to create the illusion of continuous motion. They use visual storytelling, accompanied by sound, music, and dialogue, to entertain, inform, or evoke emotional responses. Motion pictures can range from short films to full-length feature presentations and may be produced for artistic expression, educational purposes, or commercial entertainment.

The development of motion pictures has led to a rich medium combining visual arts, technology, and narrative structures, serving as a significant form of cultural communication and societal reflection.

The viewing of motion pictures began as an experience limited to a one-person audience. Soon after, the advent of motion-picture projection transformed the medium predominantly into a form of theatrical entertainment viewed by large numbers of people simultaneously.

TECHNOLOGICAL ASPECTS:

1. Film Formats:

- Originally shot on **celluloid film** (35mm, 16mm, or 8mm).
- Modern films are predominantly digital.

2. **Sound:**

- Transitioned from silent films to synchronized sound (1920s).
- Enhanced by surround sound systems like **Dolby Atmos**.

3. **Special Effects:**

- Practical effects (miniatures, pyrotechnics).
- Computer-Generated Imagery (CGI) and motion capture.

4. **Projection:**

- Traditional mechanical projectors.
- Digital projection and streaming platforms.

Types of Motion Pictures:

1. **Genres:**

- Action, drama, comedy, horror, science fiction, documentary, etc.

2. **Formats:**

- **Short films:** Typically under 40 minutes.
- **Feature films:** Generally over 60 minutes.
- **Animated films:** Created using hand-drawn, computer-generated, or stop-motion animation.

3. **Styles:**

- Fictional narrative films.
- Documentary films.
- Experimental or avant-garde films.

CULTURAL AND SOCIAL IMPACT FOR MOTION PICTURES:

1. Entertainment:

- Provides escapism, excitement, and emotional experiences.

2. Reflection of Society:

- Films often mirror cultural, political, and social issues of their time.

3. Global Influence:

- Hollywood is a dominant industry, but international cinemas like Bollywood, Nollywood, and European arthouse films contribute diverse perspectives.

4. Education and Advocacy:

- Documentaries and biopics inform audiences and raise awareness about important issues.

KEY INDUSTRY ELEMENTS FOR MOTION PICTURES:

1. Production:

- Pre-production: Scriptwriting, casting, location scouting.
- Production: Shooting the film.
- Post-production: Editing, visual effects, and sound mixing.

2. Distribution:

- Theatrical releases, DVDs, Blu-rays, streaming platforms (Netflix, Hulu, etc.).

3. Exhibition:

- Movie theaters, home entertainment, and online platforms.

4. Awards:

- Recognitions like the Academy Awards (Oscars), Golden Globes, and Cannes Film Festival highlight excellence.

FUTURE TRENDS FOR MOTION PICTURES:

1. Streaming Revolution:

- Platforms like Netflix, Disney+, and Amazon Prime dominate content consumption.

2. Virtual Reality (VR) & Augmented Reality (AR):

- Expanding the immersive cinematic experience.

3. Artificial Intelligence (AI):

- Used in scriptwriting, editing, and personalized content recommendations.

4. Sustainability:

- Efforts to make filmmaking environmentally friendly.

WEEK 2

PRODUCING AN EDUCATION MOTION PICTURE FOR LEARNING ACTIVITY

An **education motion picture** for a learning activity is a short video designed to teach or explain a concept in an engaging and visual way. It combines storytelling, visuals, and sometimes animations or real-life examples to make learning more interesting and easier to understand. The goal is to grab the viewers' attention, explain ideas clearly, and inspire them to think or take action. For example, a video showing how technology helps students learn better could be an educational motion picture for a technology class.

IMPORTANCE OF TEACHING EDUCATION MOTION PICTURES

Teaching through **education motion pictures** is important because it enhances learning in ways traditional methods often cannot. Here's why:

1. Visual Learning Enhances Understanding

- Complex concepts become easier to understand with visual aids like animations, diagrams, and real-life examples.
- Videos appeal to visual and auditory learners, making lessons more inclusive.

2. Increases Engagement

- Motion pictures capture attention and maintain interest better than text-heavy lessons.

- Storytelling and dynamic visuals make learning enjoyable and memorable.

3. Encourages Critical Thinking

- Well-designed videos can present scenarios, pose questions, and spark discussions.
- Students learn to analyze and interpret visual information critically.

4. Demonstrates Real-World Applications

- Videos show how concepts are applied in real life, bridging the gap between theory and practice.
- For instance, a motion picture can demonstrate the use of technology in different careers.

5. Supports Self-Paced Learning

- Students can pause, rewind, or rewatch educational videos, giving them control over their learning process.
- It's particularly helpful for revision and independent study.

6. Promotes Creativity in Teaching

- Using motion pictures in teaching allows educators to present content in innovative ways, encouraging curiosity and engagement.

7. Accessible and Inclusive

- Subtitles and multiple language options make motion pictures accessible to diverse learners, including those with disabilities.

Incorporating education motion pictures into teaching practices makes learning more impactful, interactive, and future-ready.

EXAMPLE OF AN EDUCATION MOTION PICTURE AS RELATING TO EDUCATIONAL TECHNOLOGY FOR A FOUR MINUTE VIDEO

I. Introduction (0:00 - 0:30)

1. Intro music and animation of students using technology
2. Narrator: "Welcome to the world of Educational Technology! EdTech is revolutionizing the way we learn and teach."

II. What is Educational Technology? (0:30 - 1:30)

1. Animation of EdTech definition
2. Narrator: "EdTech encompasses a wide range of tools and resources, from Learning Management Systems to online resources and educational apps."
3. Examples of EdTech tools and resources

III. Benefits of Educational Technology (1:30 - 2:30)

1. Real-life footage of teachers and students using EdTech
2. Narrator: "EdTech can enhance student engagement, personalize learning, and increase accessibility."
3. Examples of EdTech enhancing learning outcomes

IV. Challenges of Educational Technology (2:30 - 3:00)

1. Animation of challenges and benefits
2. Narrator: "However, EdTech also presents challenges, such as equity and access, digital literacy, and balancing technology use with traditional teaching methods."

V. Conclusion (3:00 - 3:30)

1. Conclusion animation and narrator: "In conclusion, EdTech has the potential to transform education, but it's essential to address the challenges and ensure effective integration."

VI. Closing (3:30 - 4:00)

1. Closing music and animation of students using technology

2. Narrator: "Thanks for joining us on this journey into the world of Educational Technology!"

WEEK 3

DEFINE ANIMATION

Animation is a filmmaking technique by which still images are manipulated to create moving images. In traditional animation, images are drawn or painted by hand on transparent celluloid sheets (cels) to be photographed and exhibited on film. Animation has been recognized as an artistic medium, specifically within the entertainment industry. Many animations are either traditional animations or computer animations made with computer-generated imagery (CGI). Stop motion animation, in particular claymation, has continued to exist alongside these other forms.

Animation is contrasted with live-action film, although the two do not exist in isolation. Many moviemakers have produced films that are a hybrid of the two. As CGI increasingly approximates photographic imagery, filmmakers can easily composite 3D animations into their film rather than using practical effects for showy visual effects (VFX).

Computer animation is the process used for digitally generating moving images. The more general term computer-generated imagery (CGI) encompasses both still images and moving images, while computer animation only refers to moving images. Modern computer animation usually uses 3D computer graphics.

A cartoon in the animation sense is an animated film, usually short, featuring an exaggerated visual style. The style takes inspiration from comic strips, often featuring anthropomorphic animals, superheroes, or the adventures of human protagonists. Especially with animals that form a natural predator/prey relationship (e.g. cats and mice,

coyotes and birds), the action often centers on violent pratfalls such as falls, collisions, and explosions that would be lethal in real life. A cartoon can also be a still humorous drawing, often with the same elements as animated cartoons but with still versions.

Examples of computer-generated animation in movies

Movie	Type of Computer Generated Animation	Impact
<i>Toy Story 2</i>	Stylized 3D computer animation	Pixar developed cutting-edge technology for fully 3D animation. 'Toy Story' is considered a turning point for 3D animation in general.
<i>Godzilla</i> <i>Minus One</i>	Digital VFX, photorealistic	Toho studios won an Oscar for its ground breaking VFX on a small budget relative to most box-office movies.
<i>The Breadwinner</i>	2D computer animation	Was praised for its 2D animated style, showing the possibilities of what the format could portray.
<i>Interstellar</i>	Hyper photorealistic CGI following scientific principles	The VFX artists working on Interstellar published a paper about the science and mathematics that were used to create the famous 'Gargantua' black hole.
<i>Klaus</i>	Hybrid 3D and 2D	The use of 3D lighting for 2D animation in

computer animation this movie opened up a door to many new
animation styles for 2D animators.

EXAMPLES OF FILM COMPANIES THAT USE ANIMATION

Several film companies specialize in or prominently feature animation in their productions. Here are some well-known examples:

1. Walt Disney Animation Studios

- Known for: *Frozen*, *The Lion King*, *Encanto*.
- A pioneer in animation, Disney creates both 2D and 3D animated films loved by audiences worldwide.

2. Pixar Animation Studios

- Known for: *Toy Story*, *Finding Nemo*, *Inside Out*.
- Famous for its innovative storytelling and advanced CGI techniques. It's a subsidiary of Disney.

3. DreamWorks Animation

- Known for: *Shrek*, *How to Train Your Dragon*, *Kung Fu Panda*.
- Produces entertaining animated films often blending humor and heart.

4. Studio Ghibli

- Known for: *Spirited Away*, *My Neighbor Totoro*, *Princess Mononoke*.
- A Japanese animation studio celebrated for its hand-drawn style and imaginative storytelling.

5. Illumination Entertainment

- Known for: *Despicable Me*, *Minions*, *The Secret Life of Pets*.
- Focuses on family-friendly animations with broad appeal.

6. Sony Pictures Animation

- Known for: *Spider-Man: Into the Spider-Verse*, *Cloudy with a Chance of Meatballs*, *The Mitchells vs. the Machines*.
- Recognized for bold visual styles and experimental animation techniques.

7. Blue Sky Studios (Now defunct, under Disney)

- Known for: *Ice Age*, *Rio*, *Ferdinand*.
- Produced several successful animated franchises before being acquired by Disney.

8. Laika Studios

- Known for: *Coraline*, *Kubo and the Two Strings*, *The Boxtrolls*.
- Specializes in stop-motion animation with intricate and artistic designs.

9. Aardman Animations

- Known for: *Wallace & Gromit*, *Chicken Run*, *Shaun the Sheep*.
- Famous for claymation and stop-motion animation.

10. Warner Bros. Animation

- Known for: *The LEGO Movie*, *Space Jam: A New Legacy*, and classic *Looney Tunes*.
- Blends traditional and modern animation techniques in various projects.

TOP TYPES OF ANIMATION STYLES

- Traditional animation
- 2D animation
- 3D animation
- Motion capture
- Motion graphics
- Stop motion

Traditional animation

Traditional animation (also known as cel animation) is hand-drawn. It's how they made classic films like *Snow White and the Seven Dwarfs* and *Sleeping Beauty*. Each frame is drawn on a transparent sheet called a cel, with multiple cels layered over a static background to create movement.

For example, the background scene, which doesn't move, would be the base layer, and the characters and any other moving objects would be drawn on transparent sheets placed on top. That way, they can be animated without the background or other characters and props moving at the same time.

Due to its complexity and time-consuming process, it's an animation style rarely used today.

2D Animation

2D Animation is the art of creating movement by combining a sequence of images together in a two-dimensional space. One second of animation is equal to 24 pictures (or frames), but most 2D animation usually only animates every second frame (12 frames

total). It's enough to create the illusion of movement without needing to animate all 24 frames.

The animator can also create characters using digital rigging. This allows them to create a “skeleton” of the character and tell the computer which body parts to animate. It's a huge time-saver for animators, who don't need to redraw the character for every frame.

History: The use of digital techniques became widespread in the late 1990s and early 2000s, with software like Adobe Flash (now Adobe Animate) revolutionizing the way 2D animation was produced for TV shows, web series, and games. It allowed animators to use rigging techniques—essentially creating a “skeleton” for characters—so they no longer had to redraw each frame by hand. The introduction of tweening (the process of filling in frames between key poses) also reduced the workload for animators. With software like Toon Boom Harmony, animators could cut down the required frames from 24-12 per second, with the software dynamically filling in the gaps for the animator.

Software:

Toon Boom Harmony

Adobe After Effects

3D Animation

3D Animation is the art of bringing digital characters, vehicles, props, and full scenes to life in a virtual 3D space. It's more mechanical and technical than 2D animations and requires input from other departments to create 3D models and complex character rigs.

3D animation lets you drop your 3D rigged model into a digital scene and manipulate it. You can optimize the process by setting keyframes for key actions and allowing the animation software, such as Maya, to fill in the frames between.

Another important distinction between 2D and 3D animation is that with 2D animation, you only create one side of the character (the side facing the camera). In 3D animation, the 3D character rig is designed so it can be viewed from any angle, making it helpful for 3D worlds like in games like *Grand Theft Auto*, where your character can walk 360 degrees around an asset and see all angles.

History: Pixar revolutionized the animation industry with their blockbuster *Toy Story*, the first feature-length animated 3D film. These digitally created worlds and assets had previously been used in shorter animations like commercials (check out the first 3D animated M&M ads from the nineties), but *Toy Story* opened the world to more realistic animations where lighting, movement, and character emotions were more lifelike than ever before.

Today studios are making fully 3D animated movies, integrating 3D computer-generated elements into live-action scenes, and incorporating motion capture animations into 3D graphics, as well as virtual production techniques.

Software:

- Autodesk Maya
- Blender

Motion Capture

Motion capture helps enhance the realism of 3D animations. It's used in movies like Avatar and Lord of the Rings and video games like LA Noire and Grand Theft Auto. Actors wear bodysuits containing special sensors and act out a scene. The motion capture animation software translates the motions from the sensors into a digital version. There is also software that can capture facial expressions to help convey the emotions and nuances of an actor more accurately.

An animator is pivotal to the motion capture process — they will ingest the recorded data (into software like Blender, Maya, or 3ds Max), which includes retargeting the character rig (i.e., attaching the existing character rig to the mocap animation), cleaning it up, and refining it to make sure it's in line with the character the motion capture is being used for.

History: Motion capture technology originated in the 1910s and 1920s for scientific studies but gained popularity in the 1980s with advances in computer tech. It was first adopted in films like The Abyss (1989) and Jurassic Park (1993), demonstrating its ability to seamlessly blend live-action with animation. As sensors and real-time processing evolved, mocap enabled detailed character performances in films like Avatar (2009) and The Lord of the Rings trilogy. Today, it is essential in both film and video game production, effectively translating human movements into digital characters.

Software:

Motion Builder

OptiTrack

Motion Graphics

Motion graphics animation is how you animate text logos and basic illustrations. They're commonly seen in animated logos, opening and closing film and TV credits explainer videos, and the graphics you see on top of sports plays on TV. These can be done as either 2D or 3D graphics.

Like 2D and 3D animations, motion graphics are created by designing frames and using tweens (the process animation software uses to generate images between keyframes for a smooth transition) to simulate smooth motion between the frames.

History: Motion graphics have roots in early cinema, with techniques like title cards and animated sequences used in silent films. In the 1960s, the emergence of television brought about the need for dynamic visuals, leading to the creation of iconic opening sequences, such as Saul Bass's work for Alfred Hitchcock's films.

Software:

- Adobe After Effects
- Apple Motion

Stop Motion

Stop motion is a series of still images filmed or shot sequentially to simulate action. You can create this animation style with real actors, clay figurines, or even toys and other props. The opportunities to use stop motion are only limited by your imagination.

History: Stop-motion animation has been around since the late 19th century, with early examples like *The Humpty Dumpty Circus* (1897) showcasing its potential. Pioneers such as George Méliès used stop-motion techniques to create fantastical effects in films. The

style gained popularity with productions like *King Kong* (1933) and later Tim Burton's *The Nightmare Before Christmas* (1993). Today, stop-motion blends traditional methods with modern technology commonly used in post-production film (visual effects).

Software:

- Stop Motion Studio
- Dragonframe

WEEK 5

ANALYSE AND DEVELOP EDUCATION MOTION PICTURE

Creating an **education motion picture** involves analyzing its purpose and systematically developing it to achieve its educational goals. Here's a streamlined explanation:

To start, define the objective of the motion picture. Clearly identify the learning outcome it aims to achieve. For example, if the goal is to teach about the impact of technology in education, the video should visually demonstrate this in a way that is engaging and easy to understand.

Understand your target audience, such as their age group, learning level, and preferences. For instance, high school students might prefer dynamic visuals, animations, and relatable examples over long lectures. Break down the content into logical sections, such as the evolution of educational tools, current technologies, and future possibilities.

With the objective and audience in mind, craft a compelling script. Begin with an engaging introduction to capture attention, like comparing an old-fashioned classroom with a modern tech-enabled one. Follow this with the main content, showing practical examples of how tools like virtual reality or AI enhance learning. Conclude with an inspiring vision of future possibilities, motivating the audience to imagine how they can use technology in their own learning journeys.

Visualize the script by creating a storyboard, which outlines each scene, its visuals, and corresponding text or narration. Decide on the format—whether it will be animated, live-action, or a mix of both. For abstract ideas like the flow of information in digital systems,

animations are effective, while real-life scenarios can use live-action footage to establish relatability.

Enhance the video with animations, infographics, and engaging transitions to maintain attention. Add narration and appropriate background music to guide the story and evoke emotions. Edit the footage using software like Adobe Premiere Pro, ensuring smooth integration of visuals, text, and sound. Include subtitles to improve accessibility for all learners.

Once the video is complete, evaluate its effectiveness. Gather feedback from a small group of viewers and make adjustments as needed. Finally, integrate the motion picture into learning activities, pairing it with discussions, quizzes, or projects to reinforce the material.

For example, a finished motion picture titled *“The Future of Learning with Technology”* might begin with the evolution of classrooms, explore how tools like VR and AI are transforming education today, and end with a futuristic vision of learning environments. The video could encourage students to brainstorm and present their own ideas for improving education through technology. This approach makes the content not only informative but also interactive and inspiring.

WEEK 6

3D ANIMATION

3D animation takes digital objects and makes them come to life by creating the illusion they're moving through a three-dimensional space. These computer-generated objects appear on a two-dimensional screen, but are crafted to mimic the principles of a 3D world; they appear to move, turn, and rotate like real-world objects.

3D animation was originally used primarily in video games, television, and filmmaking. Pixar's "Toy Story" is an early example of 3D animation.

Differences between 2D and 3D animation

Aspect	2D Animation	3D Animation
Dimensions	Uses X and Y axes (width and height)	Uses X, Y, and Z axes (width, height, and depth)
Creation process	Drawing frames on a flat surface	Modeling objects in a virtual 3D space
Tools	Traditional: hand-drawn Digital: vector-based software	3D modeling and animation software
Perspective	Fixed viewpoint	Multiple viewpoints possible

Aspect	2D Animation	3D Animation
Realism	Typically more stylized	Can achieve high levels of photorealism
Resource intensity	Generally less computer intensive	More computationally demanding, especially for rendering
Flexibility in editing	Requires redrawing for major changes	3D models can be easily manipulated and reused
Learning curve	Generally easier to learn basics	Steeper learning curve due to technical complexity
Common applications	Traditional cartoons, 2D games, simple explainer videos	CGI in films, 3D video games, product visualizations
Movement	Characters move in a flat plane	Characters can move freely in 3D space

Ways to use 3D animation

3D animation has evolved far beyond its origins in gaming, TV shows, and movies. Today, it's a versatile tool used across numerous industries for diverse purposes. From immersive corporate presentations to cutting-edge medical research, 3D animation is revolutionizing how we visualize and interact with information.

1. Education

- Create animated lessons to explain complex topics visually, like showing how the human body works or illustrating scientific processes.

2. Entertainment

- Use 3D characters and scenes in movies, video games, or animated series to tell engaging stories.

3. Marketing and Advertising

- Design eye-catching 3D product demos or advertisements to showcase features in a realistic way.

4. Medical Training

- Simulate surgeries or medical procedures for training doctors and healthcare professionals.

5. Architecture and Real Estate

- Build 3D models of buildings and spaces to help clients visualize designs before construction.

6. Product Design

- Test and present 3D prototypes of products to refine ideas before manufacturing.

7. Gaming

- Develop immersive 3D environments and characters to create engaging gameplay experiences.

8. Virtual Reality (VR) and Augmented Reality (AR)

- Create realistic or imaginative 3D content for VR and AR applications, like simulations or interactive games.

9. Film Special Effects

- Add lifelike creatures, explosions, or magical effects in movies.

10. Training Simulations

- Design virtual 3D scenarios for industries like aviation, military, or emergency response to train in a safe, controlled environment.

3D animation process

3D techniques can take an animated figure that appears on a two-dimensional screen and make that object look three-dimensional and like it's moving through a three-dimensional space. A skilled animation will have you reaching out and expecting to touch a 3D object, only to face a flat screen.

Here's an overview of how-to 3D animate for beginners.

1. Modeling

In the modeling phase, animators create 3D objects to serve as the animation's basis. This kind of animation is achieved by using a modeling tool. A 3D mesh is made from a simple object, called a primitive, which is then shaped and refined to the desired figure. The 3D models are then given details like color and texture. This is followed by a process known as rigging, which sets up a skeleton for the animation character that will allow it to move.

2. Layout and animation

Once the modeling and rigging are complete, 3D animators move on to the actual animation process. This is where they bring objects and characters to life through movement. There are several techniques animators use to create motion:

- Keyframe animation. This traditional method involves setting key poses at specific frames and letting the software interpolate the movement between them. Animators manipulate the object or character at critical points in the timeline, and the computer calculates the in-between frames. This technique offers precise control and is ideal for stylized or exaggerated movements.
- Motion capture. Also known as mocap, this technique involves recording the movements of real actors using special sensors or cameras. The recorded data is then applied to a 3D model, resulting in highly realistic movements. It's

particularly useful for human-like characters and is widely used in films and video games for both body and facial animations.

- Procedural animation. This method uses algorithms to generate animation automatically. It's particularly useful for creating natural phenomena like cloth, hair, or particle effects. Procedural animation can save time and produce consistent results, especially for background elements or repetitive motions.
- Physics-based animation. By simulating real-world physics, animators can create believable movements for objects interacting with their environment. This is particularly useful for effects like explosions, water simulations, or ragdoll physics in video games.
- Performance animation. This real-time animation technique lets animators puppeteer 3D characters using various input devices. It's becoming increasingly popular in live productions and virtual YouTuber performances.

Animators often combine these techniques to achieve the desired result, choosing the most appropriate method for each scene element. The choice of technique depends on the project requirements, available resources, and the specific look and feel the animator aims to achieve.

3. Rendering

Once the animation, lighting, and camera angles are perfected, the animator can move on to rendering. In this process, the graphic images that have been designed are actually created and exported. The final render of the 3D character will be tweaked according to light and shadows, reflections, transparency, and other details.

Tools and techniques

Popular 3D modeling tools include Blender, Maya, and 3DS Max, each with features suited to different animation projects.

- Blender, an open-source powerhouse, provides a comprehensive suite of tools for modeling, rigging, animation, simulation, rendering, and more. Its user-friendly interface and active community make it a favorite among beginners and professionals alike.
- Maya is widely used in the film and television industry. Developed by Autodesk, it excels in character animation, dynamic simulations, and visual effects. Maya's robust toolset allows for intricate modeling and complex animations, making it a go-to choice for high-end productions.
- 3DS Max, another Autodesk product, is popular in the gaming industry and architectural visualization. It offers powerful polygon modeling tools, a flexible plugin architecture, and excellent rendering capabilities.
- Arnold for 3DS Max helps 3D animators achieve photorealistic results. Known for its simplicity and speed, it's often used in film and television production. It excels at handling complex live-action scenes with ease.
- V-Ray is favored in architectural visualization and product design. It offers advanced global illumination techniques, producing stunningly realistic lighting and materials.

MOTION GRAPHICS

The world of commercial animation comprises a number of fields and styles. The word “animation” itself is an umbrella term, inclusive of almost anything that has movement.

One subset of animation is particularly confusing to some people, even though it’s all around us given the digital era. The genre in question? Motion graphics. This type of animation is so ubiquitous that it’s almost invisible. But motion graphics is a truly powerful tool when it comes to commercial branding and marketing animation.

From Static to Moving Designs

Motion graphics means graphics in movement. It’s the most straightforward definition possible. Oftentimes, motion graphics is also called motion design, making the relationship between movement and design elements easier to understand. Motion graphics is about bringing design knowledge to new mediums by adding the elements of time and space — thereby creating movement.

But bringing design elements to life isn’t a simple task. Unlike other animation fields, you don’t have a pre-defined or “natural” way of animating things or objects.

For example, in a traditional cel animation (think Disney movies), you can use endless references from nature to animate a human figure or animal. But in motion design, there’s no natural reference to how shapes, typography, and grids move. For this reason, motion designers study all types of movements, accelerations, and speeds. By putting all those variables together, they can bring life to design elements in a way that’s more humanized and capable of connecting with viewers.

The History of Motion Graphics

Before motion graphics existed, graphic design pieces only worked in a flat, unmoving format. Moving images were equal to the traditional Walt Disney cartoons. But with advances in the film industry like the widespread use of opening titles motion design emerged.

Motion graphics was officially born in the 1940s, thanks to the experimental work of Oskar Fischinger and Norman McLaren. In the 1950s, equally amazing designers, such as Saul Bass, Maurice Binder, and Pablo Ferro, brought motion graphics more squarely into the public eye.

Some applications of **motion graphics** today:

1. **Advertising**

- Used in commercials to create dynamic, eye-catching visuals that highlight products or services.

2. **Social Media Content**

- Animated posts or stories on platforms like Instagram and TikTok to engage audiences and promote brands.

3. **Explainer Videos**

- Short, animated videos that explain concepts, products, or services in a simple and engaging way.

4. **Movie and TV Show Credits**

- Used to display opening or closing credits in a visually appealing way, like in *Marvel* movies.

5. News Broadcasts

- Animated graphics are used for news headlines, data visualization, and to present information like charts and graphs.

6. Website Design

- Interactive, animated elements on websites, such as loading screens or buttons that move when clicked.

7. User Interface (UI) and App Design

- Motion graphics are used to enhance user experience (UX) with smooth transitions and animations in apps and software.

8. Corporate Presentations

- Animated slides and visuals in business presentations to make information more engaging and memorable.

9. Music Videos

- Used to add creative animated visuals that match the rhythm and themes of the music.

10. Video Games

- In-game interfaces, transitions, and animations to enhance the player's experience and storytelling.

11. Training and Tutorials

- Animated visuals are used in educational videos to simplify complex ideas and keep learners engaged.

12. Events and Conferences

- Motion graphics are used in event presentations, live streams, and stage projections to add visual interest.

13. Virtual Reality (VR) and Augmented Reality (AR)

- Enhancing VR/AR experiences with interactive, animated elements in virtual environments.

14. Film Special Effects

- Creating visual effects in movies, like explosions, weather effects, or fantasy environments, through animation.

Motion graphics make information visually appealing and engaging, adding energy and creativity to various forms of media.

TOOLS AND TECHNIQUES FOR MOTION GRAPHICS

Tools for Motion Graphics:

1. Adobe After Effects

- Industry-standard software for creating animated graphics, visual effects, and motion graphics for film, TV, and online content.

2. Adobe Animate

- Used for creating vector-based animations, web animations, and interactive motion graphics.

3. **Cinema 4D**

- 3D modeling, animation, and rendering software that's often used alongside After Effects to create complex 3D motion graphics.

4. **Blender**

- A free, open-source 3D creation suite used for modeling, animation, rendering, and motion graphics.

5. **Final Cut Pro**

- Video editing software that offers motion graphics capabilities, often used in conjunction with other motion graphics tools.

6. **Apple Motion**

- A motion graphics tool for macOS, ideal for creating 2D and 3D motion graphics and visual effects in a more intuitive interface.

7. **Toon Boom Harmony**

- A software used for creating 2D animation and motion graphics, favored for its powerful drawing tools and animation features.

8. **HitFilm Express**

- A free video editing software with built-in visual effects and motion graphics tools, suitable for beginners and intermediate users.

9. **Motion Graphics Templates (MOGRT)**

- Templates in Adobe Premiere Pro or After Effects that allow users to quickly apply pre-made motion graphics.

Here are some common **tools and techniques** used in motion graphics:

Tools for Motion Graphics:

1. Adobe After Effects

- Industry-standard software for creating animated graphics, visual effects, and motion graphics for film, TV, and online content.

2. Adobe Animate

- Used for creating vector-based animations, web animations, and interactive motion graphics.

3. Cinema 4D

- 3D modeling, animation, and rendering software that's often used alongside After Effects to create complex 3D motion graphics.

4. Blender

- A free, open-source 3D creation suite used for modeling, animation, rendering, and motion graphics.

5. Final Cut Pro

- Video editing software that offers motion graphics capabilities, often used in conjunction with other motion graphics tools.

6. Apple Motion

- A motion graphics tool for macOS, ideal for creating 2D and 3D motion graphics and visual effects in a more intuitive interface.

7. Toon Boom Harmony

- A software used for creating 2D animation and motion graphics, favored for its powerful drawing tools and animation features.

8. HitFilm Express

- A free video editing software with built-in visual effects and motion graphics tools, suitable for beginners and intermediate users.

9. Motion Graphics Templates (MOGRT)

- Templates in Adobe Premiere Pro or After Effects that allow users to quickly apply pre-made motion graphics.

Techniques for Motion Graphics:

1. Keyframe Animation

- The process of defining start and end points for an animation, and letting the software interpolate the motion in between.

2. Motion Tracking

- A technique where motion data from a video is tracked, and graphics are animated to follow the movement of objects in that video.

3. Typography Animation

- Animating text elements (such as words or phrases) in creative ways, often seen in explainer videos, opening titles, or social media posts.

4. Shape Animation

- The animation of vector shapes, such as lines, circles, and polygons, to create dynamic and fluid designs.

5. 3D Animation

- The use of three-dimensional space to create realistic or stylized motion, often combined with lighting, camera movements, and textures.

6. Particle Animation

- Creating effects like smoke, fire, or rain by animating particles in motion to simulate natural phenomena.

7. Rotoscoping

- A technique where video footage is traced frame-by-frame to isolate objects or people and place them in new environments or animate them.

8. Squash and Stretch

- A technique where objects or characters stretch and squash during movement to add realism or exaggerated action.

9. Layering and Compositing

- Combining multiple layers of video, graphics, and effects to create a final scene, often used in creating complex visual narratives.

10. Motion Blur

- The effect of blurring objects that are moving quickly, making the motion appear smoother and more realistic.

11. Tracking and Matchmoving

- Matching the movement of a 3D object or graphic to real-world footage, creating a seamless integration between digital and live-action content.

WEEK 7

CARTOONING

A cartoon is a type of visual art that is typically drawn, frequently animated, in an unrealistic or semi-realistic style. The specific meaning has evolved, but the modern usage usually refers to either: an image or series of images intended for satire, caricature, or humor; or a motion picture that relies on a sequence of illustrations for its animation. Someone who creates cartoons in the first sense is called a *cartoonist*, and in the second sense they are usually called an *animator*.

The concept originated in the Middle Ages, and first described a preparatory drawing for a piece of art, such as a painting, fresco, tapestry, or stained glass window. In the 19th century, beginning in *Punch* magazine in 1843, cartoon came to refer ironically at first to humorous artworks in magazines and newspapers. Then it also was used for political cartoons and comic strips. When the medium developed, in the early 20th century, it began to refer to animated films that resembled print cartoons

In print media, a cartoon is a drawing or series of drawings, usually humorous in intent. This usage dates from 1843, when *Punch* magazine applied the term to satirical drawings in its pages, particularly sketches by John Leech. The first of these parodied the preparatory cartoons for grand historical frescoes in the then-new Palace of Westminster in London.

Cartooning refers to the art and practice of creating cartoon images, typically for entertainment, storytelling, or visual commentary. Cartoons often feature exaggerated, humorous, or simplified depictions of characters, actions, and situations. Here's a breakdown of what cartooning involves:

Key Aspects of Cartooning:

1. Character Design

- Cartoons often feature exaggerated characters with simplified features, such as big eyes, exaggerated expressions, or oversized heads. Character design is crucial in conveying personality and emotion quickly.

2. Exaggeration

- Cartooning uses exaggerated features and actions to make characters or scenes more expressive and humorous, such as stretching characters during intense moments or making objects comically large or small.

3. Simplicity

- Cartoons often simplify complex forms into basic shapes and lines, making them easier to understand and visually appealing.

4. Humor and Satire

- Cartoons can serve as a medium for humor, often exaggerating reality to entertain or to comment on social, political, or cultural issues.

5. Storytelling

- Cartoons can be used for visual storytelling, ranging from short jokes or gags to long-form narratives in comic strips or animated series.

6. Movement

- Animated cartoons bring characters to life by showing them in action, often using smooth or exaggerated movements to enhance visual appeal.

7. Mediums

- Cartooning can be done using traditional hand-drawing techniques, digital illustration tools (like Adobe Illustrator or Procreate), or through animation software.

Types of Cartoons:

1. Comic Strips

- Short, humorous, or satirical stories usually found in newspapers or online. Example: *Peanuts* by Charles Schulz.

2. Animated Cartoons

- Moving cartoons featured in TV shows or movies, like *The Simpsons*, *Tom and Jerry*, or *SpongeBob SquarePants*.

3. Political Cartoons

- Satirical images or illustrations commenting on current events, often using humor to critique politicians, social issues, or government policies.

4. Webcomics

- Online comics or cartoons, often serialized, that can cover any range of topics from humor to drama.

5. Caricatures

- Exaggerated portraits of people, emphasizing distinctive features, often used in political commentary or humorous settings.

6. Manga

- A style of cartooning originating from Japan, with specific characteristics like large eyes and expressive action. Manga is usually serialized in books or magazines.

Cartooning Techniques:

1. Line Art

- Drawing characters and scenes using clear, bold lines to define shapes and features.

2. Inking

- The process of outlining pencil sketches with darker, thicker lines to create clean, finished drawings.

3. Coloring

- Adding colors to the cartoon to create mood, highlight specific areas, and make characters stand out. This can be done traditionally with paints or digitally.

4. Shading and Highlights

- Using shading to add depth and dimension to characters or scenes, enhancing the three-dimensional feel of the cartoon.

5. Storyboarding

- Planning out the sequence of scenes in an animated cartoon or comic strip, ensuring the story flows smoothly.

Cartooning is an expressive and accessible form of art that simplifies complex ideas into engaging visuals, making it a popular medium for entertainment, education, and communication.

WEEK 8

The process of producing film documentary.

A documentary film is a non-fiction movie that presents factual information about real people, places, or events. The purpose of a documentary is to educate, inform, or persuade the audience. Documentaries are often characterized by:

- **Factual information:** Documentaries present information about real people, places, or events.
- **Natural light and ambient sound:** Documentaries often use natural light and ambient sound.
- **Filming real people:** Documentaries often film real people in actual locations.
- **A distinct point of view:** Documentaries often have a distinct point of view or perspective on the subject

Analyse the process of producing film documentary

Producing a **film documentary** involves a structured process that takes a concept or subject through various stages, from initial idea development to the final edited product.

Here's a step-by-step analysis of the **documentary production process**:

1. Concept and Research

- **Idea Development:** The first step in documentary filmmaking is selecting a compelling subject. The topic should be engaging, thought-provoking, and have the potential to tell a powerful story or offer insight into an important issue.
- **Research:** This is the foundation of any documentary. It involves gathering information about the subject, interviewing experts, reading books, reviewing

media, and sometimes conducting fieldwork. Research helps shape the narrative, identify key themes, and find the best angle for the story.

- **Defining the Message:** The filmmaker should determine what the documentary aims to communicate. What is the central message, and what do they want the audience to take away from the film?

2. Scripting and Planning

- **Outline and Treatment:** The filmmaker outlines the structure of the documentary and writes a treatment—a short description of the documentary's story, style, tone, and key points. This treatment serves as a roadmap for the entire film.
- **Storyboard/Shot List:** For more structured documentaries, a detailed storyboard or shot list is prepared, especially if re-enactments or specific visuals are planned. This helps in visualizing the film's flow, even if it is a documentary about real-life events.

3. Pre-production

- **Budget and Funding:** A solid budget plan is essential for any documentary. The filmmaker needs to estimate the cost of equipment, crew, locations, travel, post-production, and distribution. Filmmakers often seek funding from grants, production companies, or crowdfunding.
- **Crew and Equipment:** The production team may include a director, producer, camera operators, sound engineers, researchers, and editors. Equipment can range from high-end cameras to microphones, lighting kits, and drones.

- **Scheduling and Locations:** Securing locations and planning the shooting schedule is crucial, especially if filming across different areas or involving special interviews. Permissions and legal clearances may also be required.

4. Production (Filming)

- **Capturing Footage:** This is the phase where the documentary is shot. Filming typically includes interviews with key subjects, location shots, B-roll footage (additional footage that complements the story), and on-the-ground visuals.
- **Interviews:** A significant component of most documentaries is interviewing individuals who have expertise or a personal connection to the subject matter. Filmmakers may use structured or spontaneous interviews, depending on the style of the documentary.
- **Observational Filming:** In some cases, filmmakers will simply observe events or people in real time (verite style), capturing natural, unscripted moments that reveal important aspects of the story.
- **Shooting for the Edit:** In documentary filmmaking, capturing more footage than necessary is typical to ensure flexibility during editing. Filmmakers also record sound separately when needed (like interviews or natural sounds) to ensure high-quality audio.

5. Post-production (Editing)

- **Organizing Footage:** Once filming is complete, the raw footage is organized, logged, and reviewed. This can be a time-consuming process, but it's essential for shaping the story.

- **Editing:** This stage involves selecting the best clips and arranging them in a narrative structure. Editors craft the story, deciding on pacing, tone, and how the subject will unfold for the audience. They also integrate visuals, interviews, B-roll, and music to enhance the storytelling.
- **Sound Design and Music:** Sound plays a significant role in documentaries. The audio is cleaned up, and music or sound effects may be added to create atmosphere or emphasize key moments.
- **Narration or Voice-over:** If the documentary includes a narrator or voice-over, the script is recorded and integrated during editing to provide context or guide the viewer through the story.

6. Review and Feedback

- **Test Screenings:** Before the documentary is finalized, it is common to conduct test screenings with a small audience. This helps identify any pacing issues or unclear sections of the film.
- **Feedback:** Filmmakers gather feedback from trusted colleagues or a focus group, making necessary changes to ensure clarity and emotional impact.

7. Distribution and Marketing

- **Film Festivals and Distribution:** Once the documentary is complete, it is submitted to film festivals for potential recognition and distribution. Filmmakers may also explore other avenues like streaming platforms (Netflix, Amazon, YouTube) or television networks.

- **Marketing and Promotion:** Marketing is essential to attract viewers. This can involve creating trailers, promotional posters, social media campaigns, interviews with the filmmakers, and film screenings to build anticipation and awareness for the documentary.

8. Legal and Ethical Considerations

- **Copyrights and Releases:** Filmmakers need to ensure they have the proper rights to use footage, music, and images, as well as obtain release forms from interviewees or locations.
- **Ethical Responsibility:** Documentaries often deal with real-life subjects, so ethical concerns, such as respecting the privacy and consent of participants, ensuring factual accuracy, and maintaining fairness, are critical throughout the production process.

Some examples of documentary films in current years

The Social Dilemma (2020)

- **Director:** Jeff Orlowski
- **Synopsis:** This film explores the dangerous human impact of social networking, featuring interviews with former tech industry insiders who reveal the manipulation behind social media algorithms.
- **Recognition:** Gained widespread attention for its exploration of social media's impact on society.

***13th* (2016)**

- **Director:** Ava DuVernay
- **Synopsis:** Named after the 13th Amendment to the U.S. Constitution, this documentary examines the intersection of race, justice, and mass incarceration in America, detailing the historical context and modern-day realities.
- **Recognition:** Nominated for an Academy Award for Best Documentary Feature.

***Won't You Be My Neighbor?* (2018)**

- **Director:** Morgan Neville
- **Synopsis:** This film tells the heartwarming story of Fred Rogers, the beloved host of *Mister Rogers' Neighborhood*, and his impact on children's television.
- **Recognition:** Widely acclaimed for its emotional depth and insight into Rogers' life and philosophy.

***American Factory* (2019)**

- **Directors:** Steven Bognar, Julia Reichert
- **Synopsis:** This documentary looks at the cultural clash that occurs when a Chinese billionaire reopens a factory in post-industrial Ohio, offering a fascinating look at globalization and labor dynamics.
- **Recognition:** Won the Academy Award for Best Documentary Feature in 2020.

***The Last Dance* (2020)**

- **Directors:** Jason Hehir

- **Synopsis:** This docuseries follows Michael Jordan and the Chicago Bulls during their 1997-1998 NBA season, providing an inside look at Jordan's career and the team's rise to dominance.
- **Recognition:** Widely praised for its extensive interviews and archival footage, becoming a cultural sensation.

The Edge of Democracy (2019)

- **Director:** Petra Costa
- **Synopsis:** This documentary reflects on the political upheaval in Brazil, focusing on the rise and fall of former presidents Luiz Inácio Lula da Silva and Dilma Rousseff.
- **Recognition:** Nominated for the Academy Award for Best Documentary Feature in 2020.

Crip Camp: A Disability Revolution (2020)

- **Directors:** Nicole Newnham, Jim LeBrecht
- **Synopsis:** This documentary tells the story of a summer camp for disabled teenagers that became a birthplace for the disability rights movement in the U.S.
- **Recognition:** Nominated for an Academy Award for Best Documentary Feature in 2021.